

ABSTRACT

An in-line formed web or other material (such as foams) having major surfaces in the X-Y plane and a depth in the Z direction is suitable for use as an integral fluid distribution and fluid retention material in a disposable absorbent article. The web or material contains multiple zones of material which may have both thermoplastic fibers/materials and absorbent material components. The multiple zones can have different compositions of thermoplastic fibers/materials and absorbent material as applied in-line by various arrangements of thermoplastic melt dies and absorbent fiber/material dispensers. By arranging at least two of the multiple zones in an opposing relation overlaid in the Z-axis direction of the web/material, a gradient can be formed in the Z-direction of the web/material. In the case of airforming, by coordinating the timing and deposition of the material onto a forming wire, at least one of the multiple zones is arranged to have intermittent material deposition in at least one of a machine direction or a cross direction of the web. Thus the in-line formed integrated web has a Z-direction gradient of air laid material zones and zones of different materials intermittently placed in one of the machine direction or the cross direction and may be customized according to the specific need for a single overall structure having fluid intake, distribution and retention properties in an absorbent article.